



Monticello Nuclear Generating Plant

Pre-Application Meeting

License Amendment Request

Revise Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 2, “Provide Risk-Informed Extended Completion Times – RITSTF Initiative 4b”

February 27, 2020

Meeting Agenda

- Describe future license amendment request
 - Scope of the request
 - Variations from TSTF-505
 - PRA Models and CRMP Summary
 - Implementation Items
- Schedule

Scope of the Request

- Based on TSTF-505, Revision 2, and NEI 06-09, “Risk-Informed Technical Specifications Initiative 4b, Risk-Managed Technical Specifications (RMTS) Guidelines”
- RICTs apply to 23 MNGP LCOs
 - Applicable in Modes 1 and 2
 - No “loss of function” consistent with template
- New TS 5.5 program called the “Risk Informed Completion Time Program”
- Precedent approved and under review considered

Variations

- Differences in Condition/RA wording
- MNGP plant-specific Conditions/RAs not in TSTF-505
- TSTF-505 Conditions/RAs not applicable to MNGP
- Administrative changes
 - TS formatting changes
- Editorial change to TS Table 3.3.5.1-1 Function 2.k
 - Correct to “Reactor Steam Dome Pressure – Time Delay Relay (Break Detection)”
- Cross-reference list for TSTF-505 markups to MNGP site-specific TS RAs provided
- Re-typed/clean TS pages not included

TS 3.3.7.2 – Mechanical Vacuum Pump Isolation Instrumentation

- Condition not in TSTF-505
- Applicable to the Main Steam Line Tunnel Radiation – High function for the mechanical vacuum pump isolation
 - TS 3.3.7.2.A.1 – for one or more channels inoperable, restore channel to OPERABLE status
 - 12 hour CT front stop
 - TS 3.3.7.2.A.2 – for one or more channels inoperable, place channel in trip
 - 12 hour CT front stop
- Function will be modeled in PRA
- RICT added to RA consistent with TSTF-505 changes

TS 3.5.1 – ECCS – Operating

- Conditions not in TSTF-505
- Applicable to low pressure ECCS subsystems
 - TS 3.5.1.B.1 – for one LPCI subsystem inoperable (for reasons other than one LPCI pump inoperable) or one CS subsystem inoperable, restore low pressure ECCS injection/spray subsystem to OPERABLE status
 - 7 day CT front stop
 - TS 3.5.1.C.1 – for one LPCI pump in both LPCI subsystems inoperable, restore one LPCI pump to OPERABLE status
 - 7 day CT front stop
 - TS 3.5.1.E – for one CS subsystem inoperable with either one LPCI subsystem inoperable or one or two LPCI pump(s) inoperable, restore either the CS subsystem (RA E.1), the LPCI subsystem (RA E.2), or the LPCI pump(s) (RA E.3) to OPERABLE status
 - 72 hour CT front stops
- LPCI pumps/subsystems and CS subsystem are modeled in PRA
- RICT added to these RAs consistent with TSTF-505 changes

PRA Technical Adequacy

- PRA models are the same as those previously reviewed under applications to adopt TSTF-425 and 10 CFR 50.69
- Internal Events (including Internal Flooding)
 - RG 1.200, Revision 2, peer reviewed
 - Appendix X to NEI 05-04 finding closure review complete
 - No open Internal Events PRA F&Os
- Fire
 - RG 1.200, Revision 2, peer reviewed
 - Appendix X to NEI 07-12 finding closure review complete
 - One open documentation related Fire PRA F&O

PRA Technical Adequacy (continued)

- Seismic
 - No MNGP seismic PRA
 - NRC staff assessment of MNGP seismic (ML15194A015):
 - Seismic hazard bounded by existing design-basis SSE,
 - Therefore, seismic risk evaluation not merited
 - Seismic penalty will be applied to all RICTs based on current seismic hazard for CDF & LERF
- Other External Hazards
 - Bounding analysis concludes that other external hazards can be screened out from calculations in the RICT Program

RICT Program Real-Time Risk Model

- A Real-Time Risk Model similar to existing Maintenance Rule a(4) Configuration Risk Management Program
 - Uses EPRI Phoenix Risk Analysis Software
 - Incorporates RICT/RMAT calculation features
 - Incorporates seismic penalty factor

Implementation Items

- The PRA will be updated to include RPS (TS 3.3.1.1) detailed modeling prior to implementation of the RICT Program
 - The NUREG/CR 5500 fault tree was quantified by failing the modeled channels to get sample RICT calculations for LAR
 - Function 3 – Reactor Vessel Steam Dome Pressure – High
 - Function 4 – Reactor Vessel Water Level – Low
 - These two signals, along with others, are appropriate for several plant upset conditions, such as main steam line isolation valve or MSIV closure, loss of feedwater, and various losses of electrical loads
 - NUREG/CR 5500 fault tree will be used as a starting point, but will be made plant-specific
- PRA will be updated to include modeling of mechanical vacuum pump instrumentation

Impact of Ongoing NRC/Industry Risk-Informed Activities

- Development of an alternative to the administrative TS addressing use of newly developed PRA methods
 - Intend to supplement MNGP application if becomes available while MNGP application is under review

Schedule

- Projected submission in March 2020 with a requested issuance of April 2021
- Request an implementation period of 180 days

Acronyms

- CDF – Core Damage Frequency
- CS – Core Spray
- CT – Completion Time
- CRMP – Configuration Risk Management Program
- ECCS – Emergency Core Cooling System
- F&O – Facts and Observations
- LAR – License Amendment Request
- LCO – Limiting Condition of Operation
- LPCI – Low Pressure Coolant Injection
- NEI – Nuclear Energy Institute
- MNGP – Monticello Nuclear Generating Plant

Acronyms (continued)

- PRA – Probabilistic Risk Assessment
- RA – Required Action
- RICT – Risk Informed Completion Time
- RMA – Risk Management
- RMAT – Risk Management Action Time
- RPS – Reactor Protection System
- SE – Safety Evaluation
- SSC – Structures, Systems, and Components
- SSE – Safe Shutdown Earthquake
- TS – Technical Specification
- TSTF – Technical Specification Task Force

